

**SENATE . . . . . No. 472**

**The Commonwealth of Massachusetts**

PRESENTED BY:

***Marc R. Pacheco***

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:*

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act providing for the establishment of a comprehensive adaptation management plan in response to climate change.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	
<i>Marc R. Pacheco</i>	<i>First Plymouth and Bristol</i>	
<i>Jay R. Kaufman</i>	<i>15th Middlesex</i>	<i>1/26/2017</i>
<i>Lori A. Ehrlich</i>	<i>8th Essex</i>	<i>1/26/2017</i>
<i>Chris Walsh</i>	<i>6th Middlesex</i>	<i>1/26/2017</i>
<i>James M. Cantwell</i>	<i>4th Plymouth</i>	<i>1/27/2017</i>
<i>Michael D. Brady</i>	<i>Second Plymouth and Bristol</i>	<i>1/27/2017</i>
<i>Marjorie C. Decker</i>	<i>25th Middlesex</i>	<i>1/30/2017</i>
<i>Thomas J. Calter</i>	<i>12th Plymouth</i>	<i>1/30/2017</i>
<i>Sal N. DiDomenico</i>	<i>Middlesex and Suffolk</i>	<i>1/31/2017</i>
<i>Jason M. Lewis</i>	<i>Fifth Middlesex</i>	<i>1/31/2017</i>
<i>Frank I. Smizik</i>	<i>15th Norfolk</i>	<i>1/31/2017</i>
<i>Kay Khan</i>	<i>11th Middlesex</i>	<i>1/31/2017</i>
<i>Robert M. Koczera</i>	<i>11th Bristol</i>	<i>2/1/2017</i>
<i>Peter V. Kocot</i>	<i>1st Hampshire</i>	<i>2/1/2017</i>
<i>James B. Eldridge</i>	<i>Middlesex and Worcester</i>	<i>2/1/2017</i>
<i>Barbara A. L'Italien</i>	<i>Second Essex and Middlesex</i>	<i>2/2/2017</i>
<i>Carolyn C. Dykema</i>	<i>8th Middlesex</i>	<i>2/2/2017</i>

<i>Patricia D. Jehlen</i>	<i>Second Middlesex</i>	<i>2/2/2017</i>
<i>Patricia A. Haddad</i>	<i>5th Bristol</i>	<i>2/2/2017</i>
<i>Daniel J. Ryan</i>	<i>2nd Suffolk</i>	<i>2/2/2017</i>
<i>Paul A. Schmid, III</i>	<i>8th Bristol</i>	<i>2/2/2017</i>
<i>Michael O. Moore</i>	<i>Second Worcester</i>	<i>2/3/2017</i>

**SENATE . . . . . No. 472**

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[SIMILAR MATTER FILED IN PREVIOUS SESSION  
SEE SENATE, NO. 451 OF 2015-2016.]

**The Commonwealth of Massachusetts**

\_\_\_\_\_  
**In the One Hundred and Ninetieth General Court  
(2017-2018)**  
\_\_\_\_\_

An Act providing for the establishment of a comprehensive adaptation management plan in response to climate change.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

1           SECTION 1. The General Laws are hereby amended by inserting after chapter 210 the  
2 following chapter:-

3           CHAPTER 21P.

4           COMPREHENSIVE ADAPTATION MANAGEMENT ACTION PLANNING IN  
5 RESPONSE TO CLIMATE CHANGE

6           Section 1. As used in this chapter, the following words shall have the following meanings  
7 unless the context clearly requires otherwise:

8           “Adaptation”, a response and process of adjustment to actual or expected climate change  
9 and its effects that seeks to increase the resiliency and reduce the vulnerability of the

10 commonwealth’s built and natural environments and seeks to moderate or avoid harm or exploit  
11 beneficial opportunities to reduce the safety and health risks that vulnerable human populations  
12 and resources may encounter due to climate change.

13 “Executive office”, the executive office of energy and environmental affairs.

14 “Hazard mitigation”, an effort using nonstructural measures to reduce loss of life and  
15 property by lessening the impacts of major storms.

16 “Plan”, the comprehensive adaptation management action plan.

17 “Public utility”, as defined in clause (7) of paragraph (j) of section 5 of chapter 21E.

18 “Resilience”, the ability to respond and adapt to changing conditions and withstand and  
19 rapidly recover with minimal damage from disruption due to climate-related events and impacts  
20 which may include, but shall not be limited to, shoreline improvement, seawall maintenance and  
21 expansion, infrastructure improvement or innovative building design and construction.

22 “State agency”, a legal entity of state government established by the legislature as an  
23 agency, board, bureau, department, office or division of the commonwealth with a specific  
24 mission that may either report to an executive office or secretariat or be independent division or  
25 department.

26 “State authority”, a body politic and corporate constituted as a public instrumentality of  
27 the commonwealth and established by an act of the legislature to serve an essential governmental  
28 function; provided, however, that “state authority” shall include energy generation and  
29 transmission, solid waste, drinking water, wastewater and stormwater and telecommunication  
30 utilities serving areas identified by the executive office as subject to material risk of flooding;

31 provided further, that unless designated as such by the secretary of energy and environmental  
32 affairs, “state authority” shall not include: (i) a state agency; (ii) a city or town; (iii) a body  
33 controlled by a city or town; or (iv) a separate body politic for which the governing body is  
34 elected, in whole or in part, by the general public or by representatives of member cities or  
35 towns.

36 Section 2. (a) The secretary of energy and environmental affairs and the secretary of  
37 public safety and security, in consultation with appropriate secretariats as determined by the  
38 governor, shall develop, draft, adopt and revise at least once every 10 years, a comprehensive  
39 adaptation management action plan. The plan shall encourage and provide guidance to state  
40 agencies, state authorities and regional planning agencies to proactively address the  
41 consequences of climate change. The plan shall also provide a process for local and regional  
42 climate vulnerability assessment and adaptation strategy development and implementation and  
43 may encourage and provide guidance to cities and towns to proactively address the consequences  
44 of climate change. The plan and any updates shall be filed with clerks of the house of  
45 representatives and senate. The plan shall be developed with guidance from the comprehensive  
46 adaptation management action plan advisory commission established in section 3.

47 Upon the adoption of the plan, all certificates, licenses, permits, authorizations, grants,  
48 financial obligations, projects, actions and approvals for any proposed projects, uses or activities  
49 in and by a state agency or state authority shall be consistent, to the maximum extent practicable,  
50 with the plan.

51 (b) The plan shall include, but not be limited to: (i) a statement setting forth the  
52 commonwealth’s goals, priorities and principles for ensuring effective prioritization for the

53 resiliency, preservation, protection, restoration and enhancement of the commonwealth's built  
54 and natural infrastructure; (ii) a commitment to sound management practices which shall take  
55 into account the existing natural, built and economic characteristics of the commonwealth's most  
56 vulnerable areas and human populations; (iii) data on existing and projected climate trends,  
57 according to the best and latest data, forecasting and models including, but not limited to,  
58 changes for temperature, precipitation, drought, sea level, and inland and coastal flooding; (iv) a  
59 statement on the preparedness and vulnerabilities in the commonwealth's emergency response  
60 and infrastructure resiliency including, but not limited to, energy, transportation,  
61 communications, health and other systems; (v) an assessment of economic vulnerability,  
62 including but not limited to, local businesses in high-risk communities; and (vi) an assessment of  
63 natural resources and ecosystems, identifying vulnerabilities and strategies to preserve, protect,  
64 restore and enhance.

65       Section 3. (a) There shall be a comprehensive adaptation management action plan  
66 advisory commission to assist the secretary of energy and environmental affairs and the secretary  
67 of public safety and security in developing the comprehensive adaptation management plan. The  
68 commission shall consist of: the secretary of the energy and environmental affairs or a designee;  
69 the secretary of public safety and security or a designee; 1 person from the University of  
70 Massachusetts with expertise in climate science chosen by the university; and 18 persons to be  
71 appointed by the secretary of energy and environmental affairs and the secretary of public safety  
72 and security, 1 of whom shall have expertise in transportation and built infrastructure, 1 of whom  
73 shall have expertise in commercial, industrial and manufacturing activities, 1 of whom shall have  
74 expertise in commercial and residential property management and real estate, 1 of whom shall  
75 have expertise in energy generation and distribution, 1 of whom shall have expertise in wildlife

76 and land conservation, 1 of whom shall have expertise in water supply and conservation, 1 of  
77 whom shall have expertise in the outdoor recreation economy, 1 of whom shall have expertise in  
78 economic and environmental justice, 1 of whom shall have expertise in ecosystem dynamics, 1  
79 of whom shall have expertise in coastal zones and oceans, 1 of whom shall have expertise in  
80 rivers and wetlands, 1 of whom shall be a professional engineer, 1 of whom shall be from a  
81 statewide nonprofit land and water conservation organization; 1 of whom shall have expertise in  
82 historic and cultural resources, 1 of whom shall be a property owner in a coastal community, 1 of  
83 whom shall have expertise in small business administration, 1 of whom shall be a certified  
84 floodplain manager and 1 of whom shall have expertise in local government. The secretary of  
85 energy and environmental affairs and the secretary of public safety and security shall jointly  
86 designate an appointee to serve as chair.

87 (b) The advisory commission shall prepare a report:

88 (1) identifying: (i) how the secretary of energy and environmental affairs can support  
89 existing adaptation, resilience and hazard mitigation efforts of state agencies, such as the  
90 StormSmart Coasts program at the office of coastal zone management, the coastal erosion  
91 commission report, BioMap2 at the department of fish and game and vulnerability studies being  
92 conducted by the department of public health and the Massachusetts Department of  
93 Transportation; (ii) recommendations of new actions that may be implemented immediately  
94 using existing state agency legal authority, state resources and funding based upon the  
95 recommendations included in the climate change adaptation report prepared pursuant to section 9  
96 of chapter 298 of the acts of 2008 and existing climate change action plans prepared by regional  
97 planning agencies and municipalities; (iii) unilateral actions that can be taken by the executive  
98 branch to increase climate adaptation, resilience and hazard mitigation including, but not limited

99 to, executive orders and policy directives issued by the governor or policies, regulations and  
100 guidance by the secretary of energy and environmental affairs; (iv) recommendations of new  
101 climate resilience and adaptation actions that require legislative authority, state resources or  
102 funding, including identification of funds to leverage opportunities through public-private  
103 partnerships; and (v) the cost of climate adaptation within the 10-year term of the plan, based  
104 upon the adaptation actions recommended in this report, existing climate action plans, including  
105 those prepared by regional planning councils, municipalities and state agency cost assessments  
106 outlined in section 4; and

107 (2) providing information relative to the risks associated with climate change, both means  
108 and extremes, including, but not limited to, the risks associated with changes in temperature,  
109 drought, increased precipitation and coastal and inland flooding identified by the advisory  
110 committee on flood risks created by climate change established in section 39 of chapter 52 of the  
111 acts of 2014.

112 Section 4. Each state agency, state authority and public utility, as designated by the  
113 secretary of environmental affairs and the secretary of public safety and security, shall, in  
114 consultation with the executive office, develop and update at least once every 10 years a  
115 vulnerability and adaptation assessment for their portfolio of assets based on the relevant  
116 scientific data and information collected by the comprehensive adaptation management action  
117 plan advisory commission pursuant to section 3. The vulnerability assessments shall classify the  
118 economic losses over time associated with each major asset for the relevant climate risks  
119 including, but not limited to, coastal and inland flooding and extreme heat, as unacceptable,  
120 noncritical or immaterial. For assets exposed to material risk of unacceptable losses, the  
121 vulnerability assessment shall include order-of-magnitude cost-estimates for: (i) measures to



122 protect the assets; (ii) measures to make the assets resilient; and (iii) removal and relocation of  
123 the assets from exposed areas. Estimates shall also be prepared for the economic, social and  
124 environmental damages if no adaptation actions are taken. Qualitative cost-benefit discussions of  
125 projected social impacts of flood prevention versus flood resilience shall also be included in the  
126 vulnerability assessment.

127         Section 5. The secretary of energy and environmental affairs and the secretary of public  
128 safety and security shall, at least 6 months before establishing a comprehensive plan pursuant to  
129 this chapter, provide for public access to the draft plan in electronic and printed copy form and  
130 shall provide for a public comment period, which shall include at least 5 public hearings across  
131 the commonwealth. The secretary of energy and environmental affairs and the secretary of public  
132 safety and security shall publish notice of any public hearing in the Environmental Monitor at  
133 least 30 days but not more than 35 days before the date of a hearing. A notice of a public hearing  
134 shall also be placed, at least once each week for the 4 consecutive weeks preceding the hearing in  
135 newspapers with sufficient circulation to notify the residents of the municipality in which the  
136 hearings shall be held. The public comment period shall remain open for at least 60 days from  
137 the date of the final public hearing. After the close of the public comment period, the secretary of  
138 energy and environmental affairs and the secretary of public safety and security shall issue a  
139 final plan and shall file the plan, together with legislation necessary to implement the plan, if  
140 any, by filing the same with the clerks of the house of representatives and senate.

141         Section 6. The plan shall be consistent with this chapter and all other general and special  
142 laws. Nothing in the plan shall be construed to supersede existing general or special laws or to  
143 confer any rights, or adversely impact existing rights, or remedies in addition to those conferred  
144 by general or special laws existing on the effective date of this chapter.

145           Section 7. The secretary of energy and environmental affairs shall develop and support a  
146 regional comprehensive climate change adaptation management action plan grant program which  
147 shall consist of financial assistance to regional planning agencies to develop and implement  
148 comprehensive cost-effective adaptation management action plans at the regional level of  
149 government. Funds shall be expended from item 2000-7070 of section 2A of chapter 286 of the  
150 acts of 2014 for the grant program and the department of energy resources may make available  
151 monies from amounts collected by the Department of Energy Resources Credit Trust Fund  
152 established in section 13 of chapter 25A of the General Laws for the grant program. Regional  
153 comprehensive adaptation management action plans shall include, but not be limited to: (i)  
154 technical planning guidance for adaptive municipalities through a step-by-step process for  
155 regional climate vulnerability assessment and adaptation strategy development; (ii) development  
156 of a definition of regional impacts by supporting municipalities conducting climate vulnerability  
157 assessments; (iii) a demonstrated understanding of regional characteristics, including regional  
158 environmental and socioeconomic characteristics; and (iv) prioritization of protecting identified  
159 inland and coastal vulnerable locations not yet built upon. The grants shall advance statewide,  
160 regional and local efforts to adapt land use, zoning, infrastructure, policies and programs to  
161 reduce the vulnerability of the built and natural environment to changing environmental  
162 conditions as a result of climate change and for the development and implementation of an  
163 outreach and education program in low income and urban areas about climate change and the  
164 effects of climate change.

165           Section 8. The executive office of energy and environmental affairs, in consultation with  
166 the division of capital asset management and maintenance, may acquire by purchase from willing  
167 sellers land abutting or adjacent to areas subject to the ebb and flow of the tide or on barrier

168 beaches or in velocity zones of flood plain areas, on which structures have been substantially and  
169 repeatedly damaged by severe weather, for conservation and recreation purposes, including those  
170 rejected by the Pre-Disaster Mitigation Grant Program and the Hazard Mitigation Grant Program  
171 administered by the Federal Emergency Management Agency.

172           Prior to the acquisition of any land under this section, the executive office shall develop a  
173 conservation and recreation management plan and coastal erosion mitigation and management  
174 plan for any such land after consultation with the municipality in which the land is located. The  
175 plan shall set forth the priority, description and location of lands to be acquired and any land  
176 management agreement reached between the agency and municipality that provides for local  
177 responsibility to carry out the development and management of the property. Land acquired  
178 pursuant to this section shall contain a deed restriction stating that the land shall be used for  
179 conservation and recreation purposes only.

180           No land shall be acquired under this section until after a public hearing has been held by  
181 the executive office in the municipality in which the land is located to consider the management  
182 plan. The executive office shall notify the mayor and city council in a city or the board of  
183 selectmen, planning board and conservation commission, if any, of a town not later than 10 days  
184 prior to any such hearing.

185           If the executive office deems it necessary to make appraisals, surveys, soundings,  
186 borings, test pits or other related examinations to obtain information to carry out this section, the  
187 executive office or its authorized agents or employees may, after due notice by registered mail,  
188 enter upon lands, water and premises, not including buildings, to make such appraisals, surveys,  
189 soundings, borings, test pits or other related examinations and such entry shall not be a trespass.

190 The executive office shall provide reimbursement for any injury or actual damages resulting to  
191 the lands, waters and premises caused by any act of the executive office or its authorized agents  
192 or employees and shall, so far as possible, restore the lands to the same condition as prior to  
193 making such appraisals, surveys, soundings, borings, test pits or other related examinations.

194 Section 9. (a) The executive office of energy and environmental affairs, acting for and on  
195 behalf of the commonwealth, may lease to a municipality or nonprofit organization, on a form  
196 approved by the attorney general, for not more than 25 years, certain property acquired by the  
197 commonwealth pursuant to section \_ or by the Federal Emergency Management Agency under  
198 42 U.S.C. § 4001, as amended, for use as conservation and recreation areas. Leases shall be in  
199 such form and contain such provisions as the secretary of energy and environmental affairs, in  
200 consultation with the division of capital asset management and maintenance, shall determine,  
201 including such terms and conditions as necessary to comply with laws relative to the protection  
202 of barrier beaches. Lands shall be leased upon the express conditions that the land shall be used  
203 for conservation and recreation purposes only, that no permanent structures shall be erected and  
204 a reversionary clause that requires the lease to be terminated if the leased land is used in  
205 violation of any law relative to barrier beaches or condition of the lease.

206 (b) In consideration for the granting of a lease authorized in subsection (a), the lessee  
207 municipality or nonprofit organization shall agree to maintain the acquired land as a clean, safe  
208 and orderly conservation or recreation area.

209 Section 10. Pursuant to its authority under section 40 of chapter 131 of the General  
210 Laws, the commissioner of environmental protection shall promulgate rules regulating the  
211 dredging, filling or altering of land subject to coastal storm flowage.

212           Section 11. The executive office of energy and environmental affairs and the executive  
213 office of public safety and security may expend such sums as may be available from any  
214 account, appropriation or fund available to the respective executive offices or to any agency  
215 within those executive offices to carry out chapter 21P of the General Laws, including expenses  
216 in connection with the department’s responsibilities under said chapter 21P and the cost of  
217 planning and for the development, redevelopment or improvement of land under said chapter  
218 21P.

219           Section 12. The regulations required pursuant to section 10 shall be promulgated not later  
220 than 180 days after the effective date of this act.

221           Section 13. The comprehensive adaptation management action plan advisory commission  
222 shall complete the first report required by subsection (b) of section 3 of chapter 21P of the  
223 General Laws not later than January 1, 2018 and shall complete a revised report at least once  
224 every 10 years thereafter.

225           Section 14. The first comprehensive adaptation management action plan required by  
226 section 2 of chapter 21P of the General Laws shall be completed not later than January 1, 2019.

227           SECTION 2. Section 16 of chapter 298 of the acts of 2008 is hereby amended by striking  
228 out, in lines 3 and 4, the words “, and shall expire on December 31, 2020.